Olin

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January 28, 2010

Ms. Beth Walden
Remedial Project Manager
United States Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-8960

Re: Response to EPA Request for Gate Effluent Sampling Work Plan
OU-2 McIntosh, McIntosh, Alabama

Dear Ms. Walden:

Olin Corporation (Olin) is herein submitting the work plan for effluent gate sample collection in the form of a table and figure at Olin McIntosh OU-2, as requested via e-mail dated January 21, 2010. Table 1 presents the sample identification and analyses for the gate effluent sampling effort. Figure 1 shows the location of the gate where the samples are collected. The e-mail also requested the answers to four questions. Olin/MACTEC's responses to these questions are in italics immediately following EPA's question.

1. State the question the data is being collected to answer.

   Response: The gate effluent sampling collection activities address Item 8 of the July 29, 2009 table of Data Quality Objectives (DQOs) to Address Data Gaps at OU-2. Item 8 of this DQO table, indicates that gate effluent samples "should represent water from the discharge at the gate during or right after an event when releasing water from the system. Discharge samples will be used to determine what concentration of Hg is leaving the site."

2. Explain the three conditions samples are being collected to answer and how the samples will be collected.

   Response: Collection of effluent gate samples is targeted at water elevations that represent the beginning, middle, and end of the gate effluent decant cycle. The beginning, middle, and end of the cycle is represented by water elevations (NAVD 88), between 10 and 11 feet, 8 and 9 feet, and 6 and 7 feet, respectively. Eleven feet is the highest elevation of the gate and six feet is the lowest water elevation maintained at the gate structure. Effluent gate samples for the three elevation targets cannot always be sampled because the water elevation rises with an incoming storm event before the lower elevation targets can be reached.

   Sample collection activities are planned for two storm events that overtop the berm (i.e., greater than 12 feet in elevation) and for two storm events that do not overtop the berm (i.e., less than or equal to 12 feet in elevation).

*The effluent gate samples are collected from the flow immediately above the gate edge as it enters the channel using a peristaltic pump and pre-cleaned Teflon® tubing. The tubing is threaded through a PVC pipe to provide stability; the PVC pipe does not come in contact with the effluent sample. The tubing opening is inserted 1 to 2 inches into the flow. Samples for low-level mercury and methylmercury analysis are collected in triplicate using 1 liter laboratory, pre-cleaned Teflon® bottles. Single samples are collected for total suspended solids (TSS) and total dissolved solids (TDS). Sample analyses, frequency, and quality assurance/quality control (QA/QC) samples are presented in Table 1. QA/QC procedures for sample collection and analysis are provided in the October Quality Assurance Project Plan (QAPP) as approved by EPA, (*MACTEC Engineering and Consulting, Inc., 2008. *Quality Assurance Project Plan, Operable Unit 2, McIntosh, Alabama.* Revised October 9, 2008.)

3. Explain what samples will be analyzed for (e.g., Total and MeHg in filtered and unfiltered water etc) and how these results will be used to answer the question.

   Table 1 summarizes sample analyses and frequency. Samples are analyzed for TSS, TDS, filtered/unfiltered mercury, and filtered/unfiltered methylmercury. Mercury and methylmercury samples are collected in triplicate to evaluate sample variability. Water level and time at sample collection are documented. Data from the sample analyses will be used to determine concentration levels of low-level mercury and methylmercury that may be present in the effluent from the gate during a decant cycle. Corresponding samples are collected on the Tombigbee River upstream of the inlet channel for comparison to the effluent samples.

4. Confirm that the procedures (sampling and analytical) being proposed (used) will collect adequate volume of water to perform the analyses and achieve the required detection limits for all variables of interest.

   These sample volumes are adequate to achieve the detection limits required by the approved QAPP.

I can be reached at (423) 336-4388 or via e-mail (kdroberts@olin.com) should you have any questions.

Sincerely,

OLIN CORPORATION

Keith D Roberts

Keith D. Roberts
Manager, Environmental Sites

Enclosures

cc:	S.B. Favors – ADEM	
email cc:	A.B. Carringer – Olin	C.E. Draper – MACTEC
	R.A. Kennedy – Olin	T.B. Odom – Olin

Table 1
Gate Effluent Sampling
Olin McIntosh OU-2

	Analysis					
Sample ID	Total Hg (low-level, unfiltered) - EPA 1631E	Total Hg (low-level, filtered) - EPA 1631E	MeHg (unfiltered) - EPA 1630 (draft)	MeHg (filtered) - EPA 1630 (draft)	Total Suspended Solids - EPA 160.2	Total Dissolved Solids - EPA 160.1
Gate Samples						
OU2B-SW-GATE 1A-DATE	X	X	X	X	X	X
OU2B-SW-GATE 1B-DATE	X	X	X	X		
OU2B-SW-GATE 1C-DATE	X	X	X	X		
OU2B-SW-GATE 2A-DATE	X	X	X	X	X	X
OU2B-SW-GATE 2B-DATE	X	X	X	X		
OU2B-SW-GATE 2C-DATE	X	X	X	X		
OU2B-SW-GATE 3A-DATE	X	X	X	X	X	X
OU2B-SW-GATE 3B-DATE	X	X	X	X		
OU2B-SW-GATE 3C-DATE	X	X	X	X		
River Samples						
OU2B-SW-TBR 1A-DATE	X	X	X	X	X	X
OU2B-SW-TBR 1B-DATE	X	X	X	X		
OU2B-SW-TBR 1C-DATE	X	X	X	X		
OU2B-SW-TBR 2A-DATE	X	X	X	X	X	X
OU2B-SW-TBR 2B-DATE	X	X	X	X		
OU2B-SW-TBR 2C-DATE	X	X	X	X		
OU2B-SW-TBR 3A-DATE	X	X	X	X	X	X
OU2B-SW-TBR 3B-DATE	X	X	X	X		
OU2B-SW-TBR 3C-DATE	X	X	X	X		
QA/QC Samples						
OU2B-SW-FB 1-DATE	X	X				
OU2B-SW-FB 2-DATE	X	X				
OU2B-SW-FB 3-DATE	X	X				
OU2B-SW-EB 1-DATE	X	X	X	X		
OU2B-SW-GATE X-DATE (MS/MSD)	X	X	X	X		

Notes:

Samples analyzed for Total Hg (filtered and unfiltered) and MeHg (filtered and unfiltered) are collected in triplicate and are identified as A, B and C.
MS/MSD collected simultaneously as one of the three gate samples.
Gate 1 samples - collected when Basin water elevation is between 10 and 11 feet NAVD88
Gate 2 samples - collected when Basin water elevation is between 8 and 9 feet NAVD88
Gate 3 samples - collected when Basin water elevation is between 6 and 7 feet NAVD88
TBR 1 samples - first round of surface water samples collected from the Tombigbee River
TBR 2 samples - second round of surface water samples collected from the Tombigbee River
TBR 3 samples - third round of surface water samples collected from the Tombigbee River
EB - Equipment blank
FB - Field blank
Hg - Mercury
MeHg - Methyl Mercury
MS - Matrix Spike
MSD - Matrix Spike Duplicate
OU2B - Operable Unit 2 Basin
QA/QC - Quality Assurance/Quality Control
SW - Surface Water
TBR - Tombigbee River

Prepared/Date: AES 1/26/10
Checked/Date: HEF 1/26/10